PCG-GRZ610/GRZ630/GRZ660

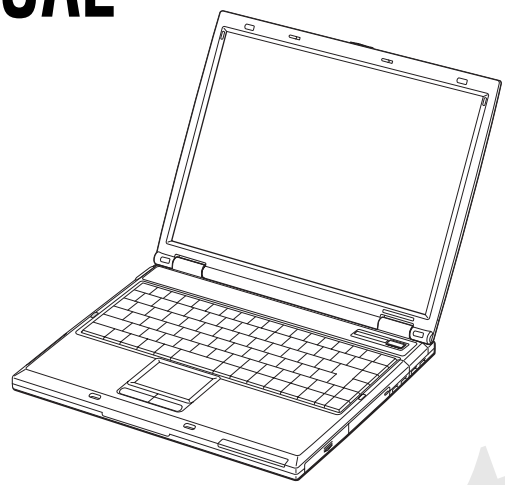
SERVICE MANUAL

For American Area

US Model
CanadianModel

Ver 3-2004B

Revision History



Illust : PCG-GRZ660

MEMORY STICK™ i™ S400

VAIO

Lineup : PCG-GRZ660
PCG-GRZ630
PCG-GRZ610

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• Design and specifications are subject to change without notice.

NOTEBOOK COMPUTER

SONY®

9-876-068-03

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Caution Markings for Lithium/Ion Battery - The following or similar texts shall be provided on battery pack of equipment or in both the operating and the service instructions.

CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

CAUTION: The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100°C (212°F) or incinerate.
Dispose of used battery promptly.
Keep away from children.

CAUTION: Changing the back up battery.

- Overcharging, short circuiting, reverse charging, multilation or incineration of the cells must be avoided to prevent one or more of the following occurrences; release of toxic materials, release of hydrogen and/or oxygen gas, rise in surface temperature.
- If a cell has leaked or vented, it should be replaced immediately while avoiding to touch it without any protection.

Service and Inspection Precautions

1. Obey precautionary markings and instructions

Labels and stamps on the cabinet, chassis, and components identify areas requiring special precautions. Be sure to observe these precautions, as well as all precautions listed in the operating manual and other associated documents.

2. Use designated parts only

The set's components possess important safety characteristics, such as noncombustibility and the ability to tolerate large voltages. Be sure that replacement parts possess the same safety characteristics as the originals. Also remember that the ⚠ mark, which appears in circuit diagrams and parts lists, denotes components that have particularly important safety functions; be extra sure to use only the designated components.

3. Always follow the original design when mounting parts and routing wires

The original layout includes various safety features, such as inclusion of insulating materials (tubes and tape) and the mounting of parts above the printer board. In addition, internal wiring has been routed and clamped so as to keep it away from hot or high-voltage parts. When mounting parts or routing wires, therefore, be sure to duplicate the original layout.

4. Inspect after completing service

After servicing, inspect to make sure that all screws, components, and wiring have been returned to their original condition. Also check the area around the repair location to ensure that repair work has caused no damage, and confirm safety.

5. When replacing chip components...

Never reuse components. Also remember that the negative side of tantalum capacitors is easily damaged by heat.

6. When handling flexible print boards...

- The temperature of the soldering-iron tip should be about 270C.
- Do not apply the tip more than three times to the same pattern.
- Handle patterns with care; never apply force.

Caution: Remember that hard disk drives are easily damaged by vibration. Always handle with care.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

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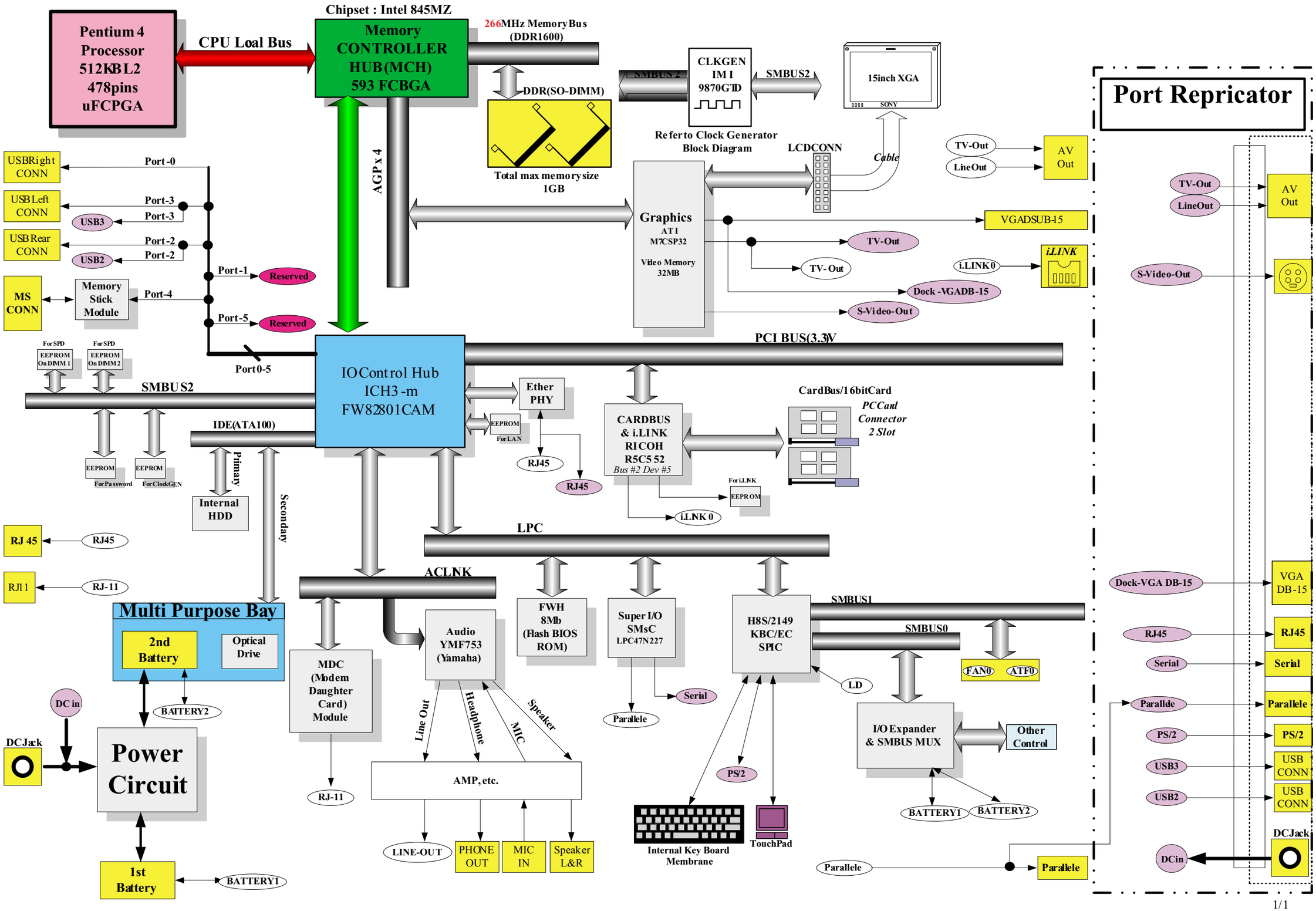
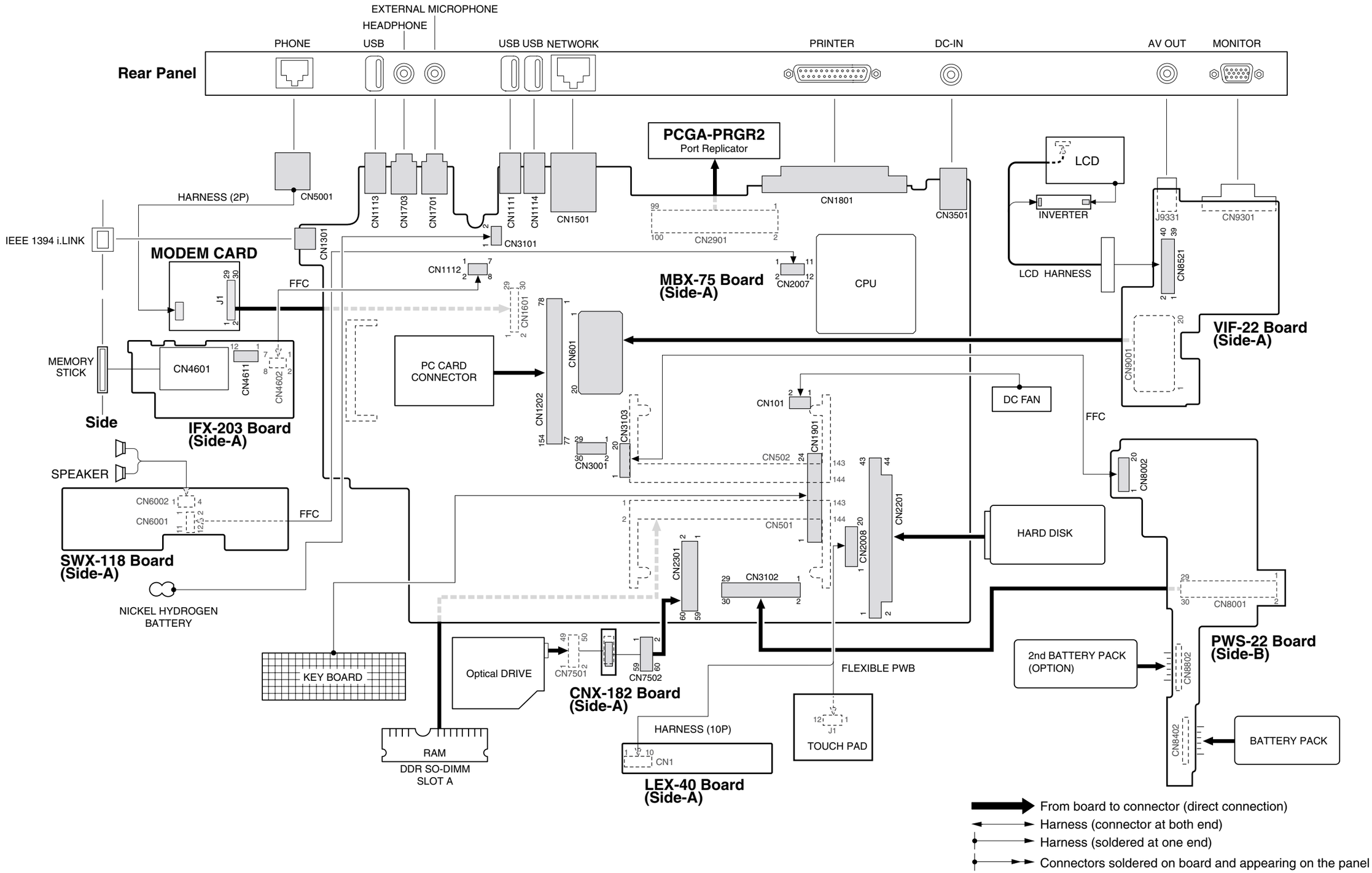
History of the changes is shown as the "Revision History" at the end of this data.

CHAPTER 1.
BLOCK DIAGRAM



1/1

CHAPTER 2.
FRAME HARNESS DIAGRAM



CHAPTER 3.
EXPLODED VIEWS AND PARTS LIST

NOTE:

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- When two or more parts are shown in parallel, use the part described first as the main part.
- The parts marked " $ " are the High Value Modules.
- The parts marked " # " are the parts on which barcode label is attached.
- The indication [CH] is used for identification of part type.
- Regarding the boards of this model, the discrete parts on the boards cannot be replaced. However, Some connectors can be replaced.

【使用上の注意】

- * 印の部品は常備在庫しておりません。
- 図面番号のない部品は供給しません。
- 併記部品の場合，上部記載部品をメイン部品として使用してください。
- 部品名称の前に $ 印のついた部品は，High Value Module です。
- 商品名称の前に # 印のついた部品は，バーコードラベル貼付部品です。
- [CH]の表記は部品管理上の識別です。
- 本モデルの基板については，基板上の各部品の修理は行うことができません。ただし，一部のコネクタについては，修理可能です。

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

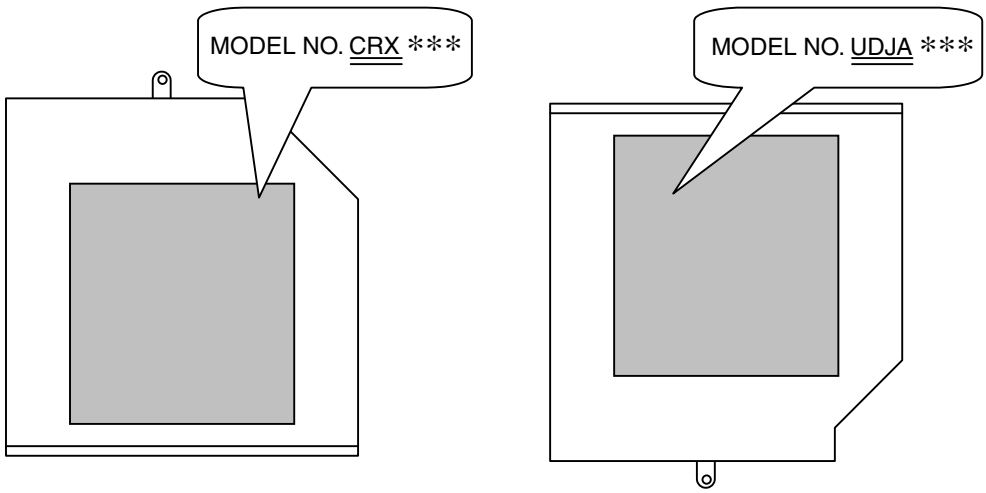
⚠印の部品，または⚠印付きの点線で囲まれた部品は，安全性を維持するために重要な部品です。従って交換時は，必ず指定の部品を使用してください。

How to Use Parts Differently.

This series of product uses the two different types of optical drive (So type and Pa type).
When replacing the optical drive, use the So type parts for the So type optical drive, and use the Pa type parts for the Pa type optical drive.
Replace the peripheral parts of optical drive with the same type in the same way.

[Applicable Model]
GRZ610/GRZ630 Model

[How to identify the So and Pa types of parts]



(Type So) (Type Pa)

[Example of showing in repair part list]

Ref.No.	Part No.		Description
999	8-458-896-70	$ #	RW DRIVE CRX820E-V2 (So)
999	1-796-594-11	$ #	COMBO DRIVE (UJDA740) (Pa)

3-1. Main Section

Ref.No.	Part No.		Description
1	4-667-050-01		ESCUSHION TP
2	1-796-166-21		PAD, TOUCH
3	X-4625-676-1		HOUSING (PALM REST) (NJ) ASSY
* 5	4-667-062-01		PLATE GND
6	1-688-138-11		GT2 T/P FPC
7	4-653-795-01		[CH]...BUTTON HOLDER
9	4-667-037-01		SPEAKER HOLDER L
12	1-796-594-11	$ #	(GRZ610/GRZ630)... COMBO DRIVE (UJDA740) (Pa)
12	8-458-896-71	$ #	(GRZ610/GRZ630)... RW DRIVE CRX820E-V2 (So)
12	1-796-506-11	$ #	(GRZ660)...W-DVD(SD-R6012) (To)
13	A-8067-582-A	$	COMPLETE PWB CNX-182
14	4-667-033-01		(GRZ610/GRZ630)...CASE BAY
14	4-667-033-02		(GRZ660)...CASE BAY
15	A-8067-873-A	$ #	COMPLETE PWB MBX-75(GT2+)
16	4-668-304-01		SHEET DRIVE
17	1-815-594-41		CONNECTOR PC CARD (EJECT RIGHT)
18	4-655-960-11		[CH]...SHEET PC CARD
* 19	4-667-068-01		BRACKET PALMREST R
20	1-761-606-12	#	CARD, MODEM
* 21	4-667-067-01		BRACKET PALMREST L
22	6-600-116-01		IC M470L3224DT0-CB0 (DDR266 SO-DIMM 256MB)
22	6-600-167-01		IC MT8VDDT3264HDG-265B3 (DDR266 SO-DIMM 256MB)
23	X-4625-305-1		BRACKET KEYBOARD ASSY
24	X-4625-501-1		BLACKET IO ASSY
25	6-703-633-01		(GRZ630/GRZ660)... IC RK80532PC056512SL6GS (P4-M 2.4GHz)
25	6-704-126-01		(GRZ610)... IC RK80532PC041512SL6S7 (P4-M 2.0GHz)
26	4-654-119-01		[CH]...PLATE DC
27	A-8067-872-A	$	COMPLE PWB VIF-22
28	X-4625-238-1		ASSY SHIELDING PALMREST
29	A-8112-576-A	$	STH HEAT SINK ASSY (*2)
30	4-670-461-01		SHEET BLIND (PLATE HEATSINK)
31	4-670-396-01		SHEET COPPER (PLATE HEATSINK)
32	4-653-761-01		[CH]...CAP ETHERNET
33	4-667-060-01		BRACKET ILINK
34	1-824-997-11		FFC (20P)
36	A-8067-874-A	$	COMPLETE PWB PWS-22(GT2+)
37	X-4625-234-1		ASSY (DOOR MDC)
38	4-667-066-01		BRACKET PHONE
39	X-4625-239-1		ASSY LATCH DETECTOR
40	9-885-028-60		HARNESS, 2PIN
41	A-8067-585-A	$	COMPLETE PWB LEX-40
42	4-668-294-01		FOOT FRONT
45	4-667-052-01		DOOR BATTERY
46	4-668-299-01		DOOR BATTERY SPRING
47	X-4625-307-1		DOOR IO ASSY
49	X-4625-790-1		ASSY DOOR DIMM COPPER
50	X-4625-683-1		ASSY (HOOD) (KEYBOARD)
51	4-671-590-01		SHEET (MS) (C)
52	A-8067-852-A	$	COMPLETE PWB IFX-203 (GT2)
53	1-529-878-31		SPEAKER (2.8CM)
54	4-667-038-01		SPEAKER HOLDER R
55	1-823-099-11		CABLE, FLEXIBLE FLAT
56	A-8067-574-A	$	COMPLETE PWB SWX-118
57	1-827-082-11		FFC 12PIN (120)
58	4-668-301-01		SHEET PWS1
59	4-668-302-01		SHEET PWS2
60	1-477-580-21	$ #	KEY BOARD UNIT (US)
61	4-667-074-01		BASE DISPLAY
62	A-8113-859-A	$ #	ASSY HDD 40GB(H) (S)
63	4-653-801-11		[CH]...SHEET HDD

Ref.No.	Part No.	Description
64	4-653-799-11	[CH]...BRACKET HDD
65	X-4625-233-1	ASSY DOOR HDD
67	X-4625-847-1	HOUSING BOTTOM ASSY
68	4-654-379-12	COVER (PORT)
70	4-668-288-01	CUSHION PALM
71	1-756-038-11	BATTERY, NICKEL HYDROGEN
72	4-642-711-11	[CH]...SHEET (BATTERY), ADHESIVE
73	————	CAPTON TAPE (W19X20) (*1)
74	4-671-241-01	SHEET THERMAL (STH)
75	4-668-310-01	GASKET (LAN)
76	4-671-083-01	COVER (B), LENS
77	4-668-305-01	SHEET HDD
78	4-668-313-01	ICON SHEET
79	4-654-837-01	SHEET BAY BOARD
81	4-654-380-31	[CH]...CAP BAY
83	X-4625-306-1	PLATE HEATSINK ASSY
84	4-668-300-01	SHEET ATI
87	X-4625-685-1	(GRZ610/GRZ630)... BEZEL COMBOX24 (PA) ASSY (Pa)
87	X-4625-684-1	(GRZ610/GRZ630)... BEZEL COMBOX24 (CN) ASSY (So)
87	X-4625-686-1	(GRZ660)... BEZEL DVD-RW (TO) ASSY (To)
89	4-668-306-01	SHEET PORT
90	4-668-307-01	SHEET DIMM
91	4-668-308-01	SHEET MINI PCI
92	4-668-312-01	SHEET DIMM SIDE
93	4-668-297-01	INSULATOR MB SHIELDING
94	4-668-295-01	FAN INLET SPONGE1
95	4-668-296-01	FAN INLET SPONGE2
96	4-669-868-01	FAN INLET SPONGE 3
98	4-670-462-01	THEMAL SHEET (PLATE HEATSINK)
100	4-671-609-01	GT+ MOS PAD R
101	4-671-610-01	GT+ MOS PAD L
104	4-671-208-01	SHEET SPEAKER R
105	4-671-203-01	SHEET SHIELDING PALMREST
106	4-671-204-01	SHEET KB1
107	4-671-205-01	SHEET KB2
108	4-671-206-01	SHEET HOUSING BOTTOM
109	4-671-207-01	BOARD DOCKING
110	4-671-608-01	GT+ GASKET HEATSINK
111	4-673-315-01	GT2 WASHER
112	4-670-047-01	(GRZ610/GRZ630)... TAPE COPPER (PA1) (Pa)
113	4-670-048-01	(GRZ610/GRZ630)... TAPE COPPER (PA2) (Pa)
130	4-655-927-03	(GRZ660)...SPRING (DVD-ROM) (To)
144	4-669-412-01	(GRZ660)...CU SHEET DVD-RW (To)
145	4-667-051-01	FOOT REAR ——— ⚠2 [ADD]
B1	4-654-387-01	SCREW (MBX)
B2	4-641-726-41	SCREW (M2), SPECIAL HEAD
B3	4-669-867-01	SCREW(M2X4), SPECIAL HEAD
B4	4-639-112-01	SCREW M2X4
B5	4-645-177-01	(GRZ610/GRZ630)... SCREW (M1.7X3.5) (Pa)
B6	4-635-301-01	SCREW M3X4
B7	4-635-966-01	SCREW (HEX)
B8	4-656-703-01	SCREW M2
B10	4-654-386-01	SPACER (PWS)
B11	4-654-385-01	SPACER (VIF)
B12	4-661-107-01	STAND OFF M2X5
B13	4-644-899-01	SCREW (M2), 0 NUMBER P3 KIND
B14	4-654-811-01	SCREW M3
B15	7-622-205-05	NUT (M2 TYPE2), HEXAGON)
B17	4-641-726-81	SCREW (M2), SPECIAL HEAD

*1 Use the CAPTON TAPE.

*2 When removing “HEAT SINK ASSY”, a JIG is required. For more information, refer to “Dessembly & Assembly Guide”.

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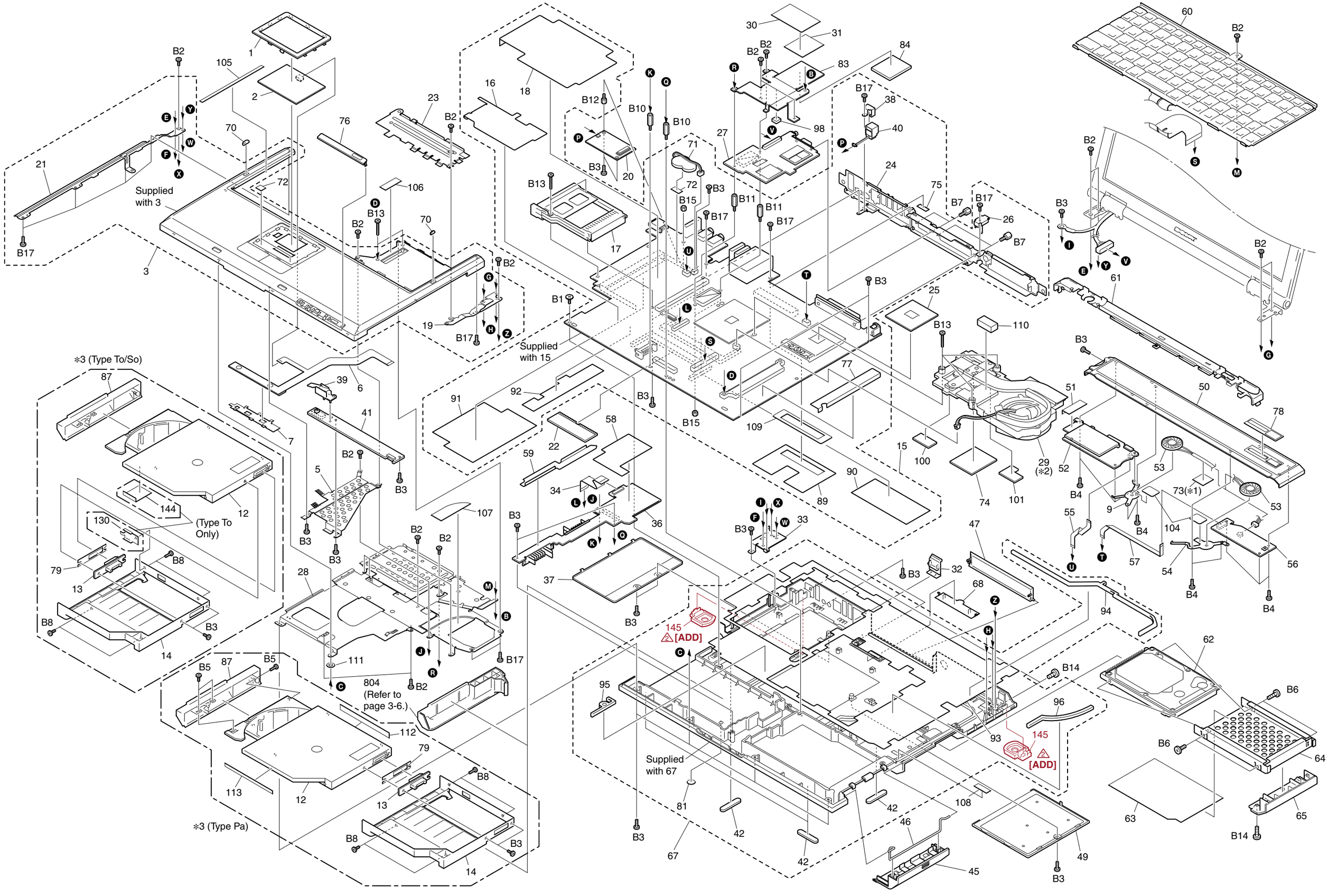
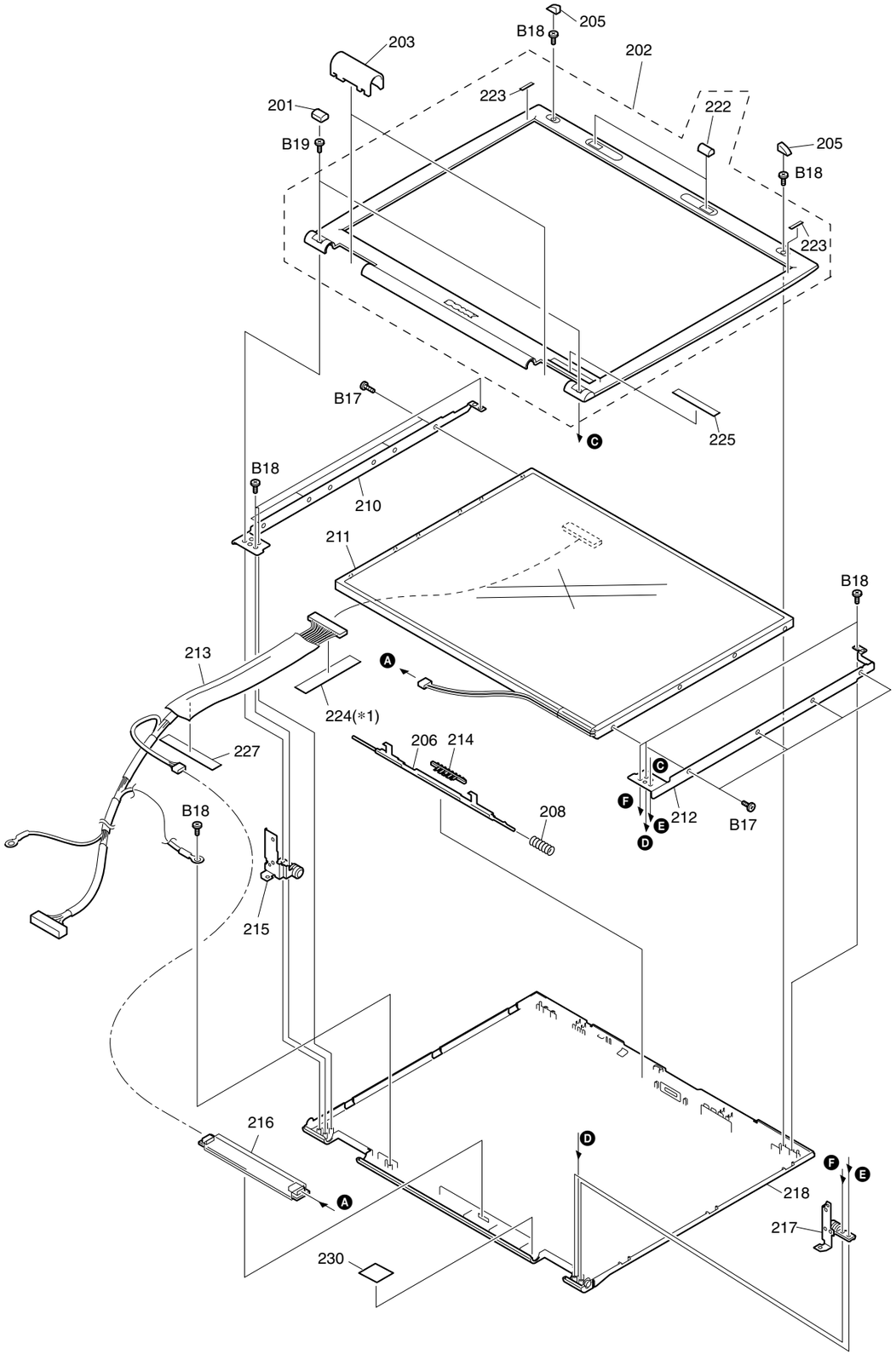


*3 By referring to "[How to identify the So and Pa types of parts] (page 3-1), use the So type parts when replacing the So type optical drive, and use the Pa type parts when replacing the Pa type optical drive.

3-2. LCD Section – Made by HI–

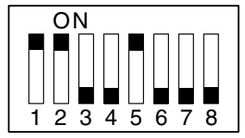


Ref.No.	Part No.		Description
201	4-672-197-01		COVER SCREW LOWER
202	X-4625-682-1		HOUSING (BEZEL 15) ASSY
203	4-667-073-01		COVER HINGE
205	4-672-198-01		COVER SCREW UPPER
206	4-670-669-01		LATCH HONTAI
208	4-672-199-01		SPRING (LATCH), COMPRESSION
* 210	4-671-115-01		BRACKET LCD 15 (L)
211	A-8067-507-A	$ #	ASSY LCD 15HI AP2(S)
* 212	4-671-114-01		BRACKET LCD 15 (R)
213	1-961-757-13		LCD HARNESS
214	4-670-668-01		LATCH BUTTON
215	X-4625-677-1		HINGE (LEFT)
216	1-476-316-31		INVERTER UNIT
217	X-4625-678-1		HINGE (RIGHT)
218	X-4625-679-1		HOUSING (DISPLAY 15) ASSY
222	4-672-202-01		CUSHION LATCH
223	4-672-201-01		CUSHION BEZEL
224	————		FILAMENT TAPE (W19X50) (*1)
225	4-671-967-01		(GRZ630)...LABEL (ID) (U) (C)
225	4-672-243-01		(GRZ660)...LABEL ID (U)
225	4-671-967-11		(GRZ610)...LABEL (ID) (U) (C)
227	4-672-403-01		COPPER TAPE LCD ED
230	4-673-316-01		GT2 CUSHION WL CABLE
B17	4-641-726-81		SCREW (M2), SPECIAL HEAD
B18	4-641-726-61		SCREW (M2), SPECIAL HEAD
B19	4-664-453-21		SCREW(M2X4), SPECIAL HEAD

*1 Use the FILAMENT TAPE.

NOTE :

Set the DIP switch on the MBX-75 board (Main board) to match with the LCD that is used in this computer.



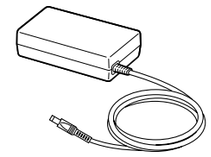
The upper position where ON indication is shown is the ON position . The lower position is the OFF position.

No.	1	2	3	4	5	6	7	8
ON/OFF	0	0	1	1	0	1	1	1

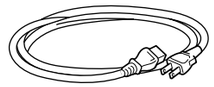
0 : ON 1: OFF

Ref.No.	Part No.		Description
			ACCESSORIES
			**********
⚠801	1-477-206-32	$	ADAPTOR, AC
802	A-8112-427-A	$ #	BP2NX SNT(U)ASSY(S)
⚠803	1-757-562-21		CORD, POWER
804	4-653-768-02		WEIGHT SAVER
			(Refer to page 3-3.)
	4-672-167-01		QUICK START
	4-673-227-01		(GRZ610/GRZ630)... SPECIFICATIONS SHEET
	4-673-022-01		(GRZ660)...SPECIFICATIONS SHEET

801
AC Adaptor (1)



803
Power Cord (1)

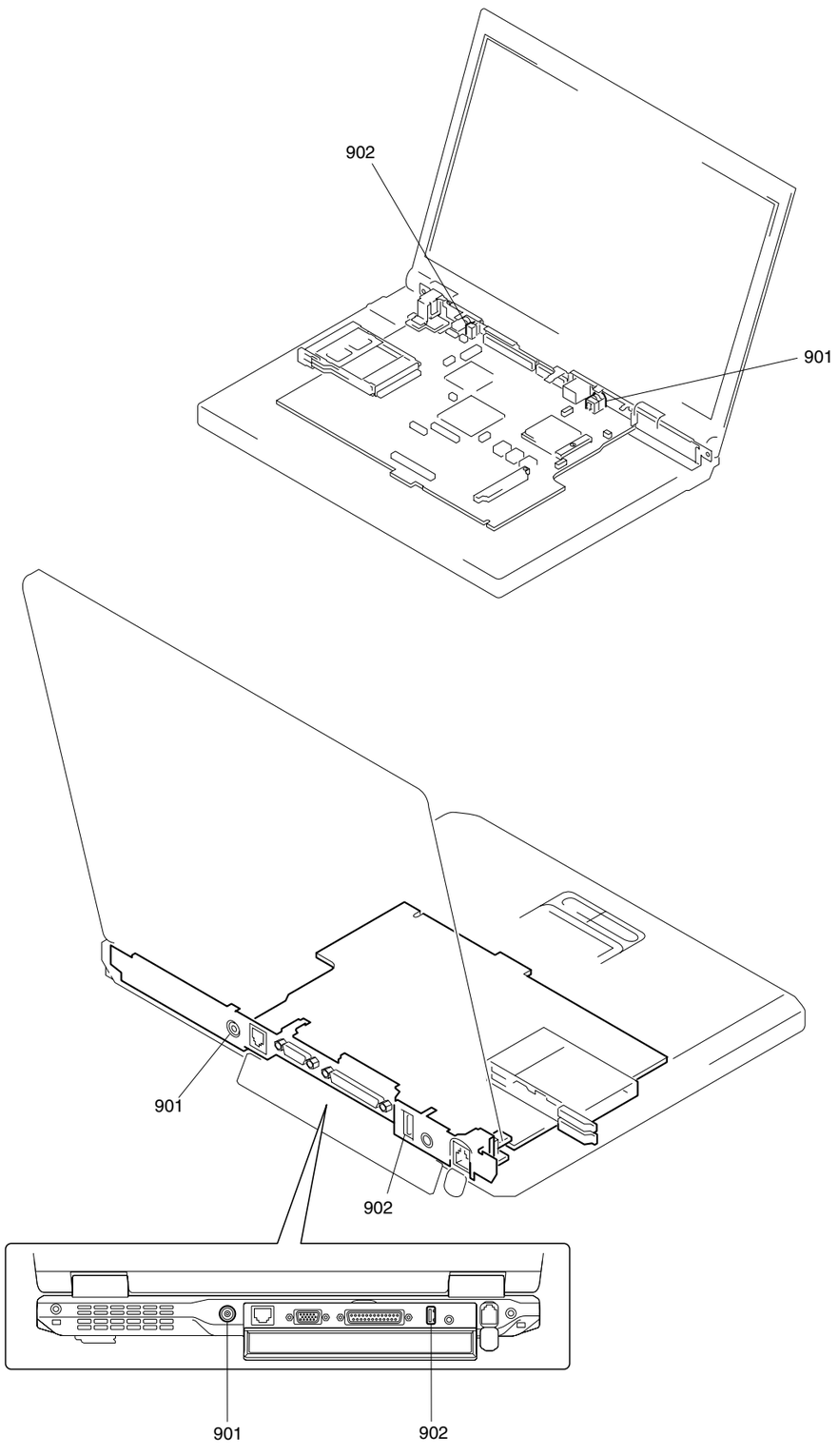


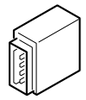
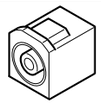
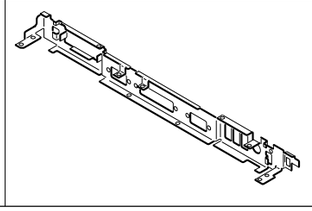
802
Battery Pack (1)

804
Weight Saver (1)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

3-3. Connector Section (CH Type only)



Ref.No.	Fig.	Part No.	Description
901		1-817-023-11	[CH]...CONNECTOR, USB USB connector
902		1-779-745-21	[CH]...JACK, DC DC IN connector
903		X-4625-501-1	[CH]...BRACKET IO ASSY I/O Bracket

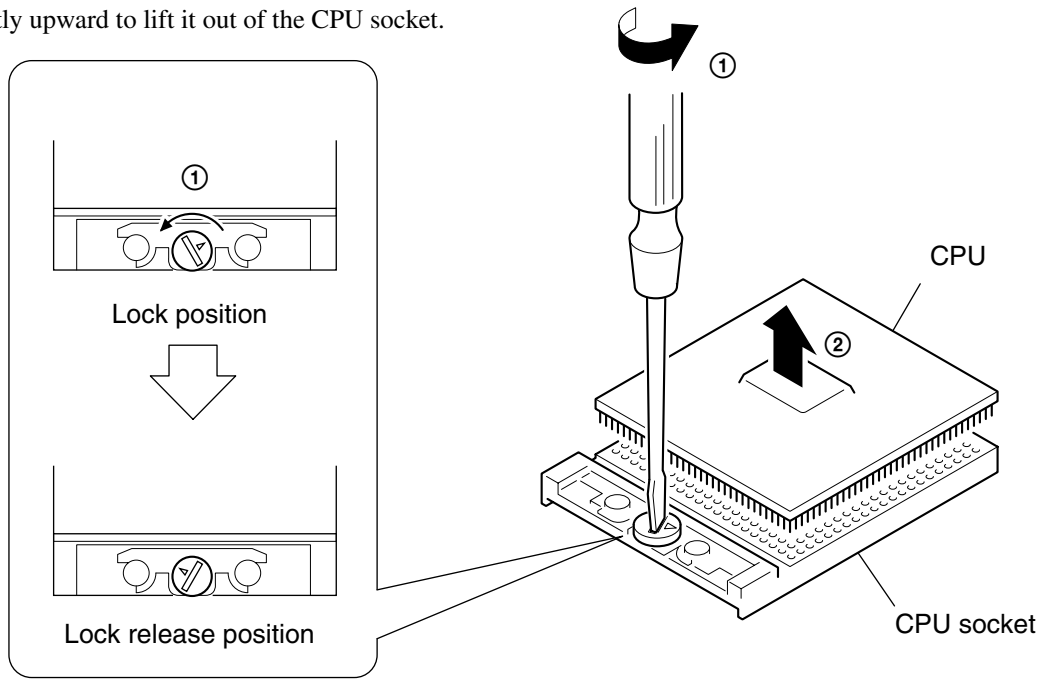
* Among the parts that are used on the boards of this model, only the connectors that are show in the list can be replaced.
(The parts other that the specified connectors cannot be replaced.)

4-1. Replacing the CPU

1. Removing the CPU

① Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock release position.

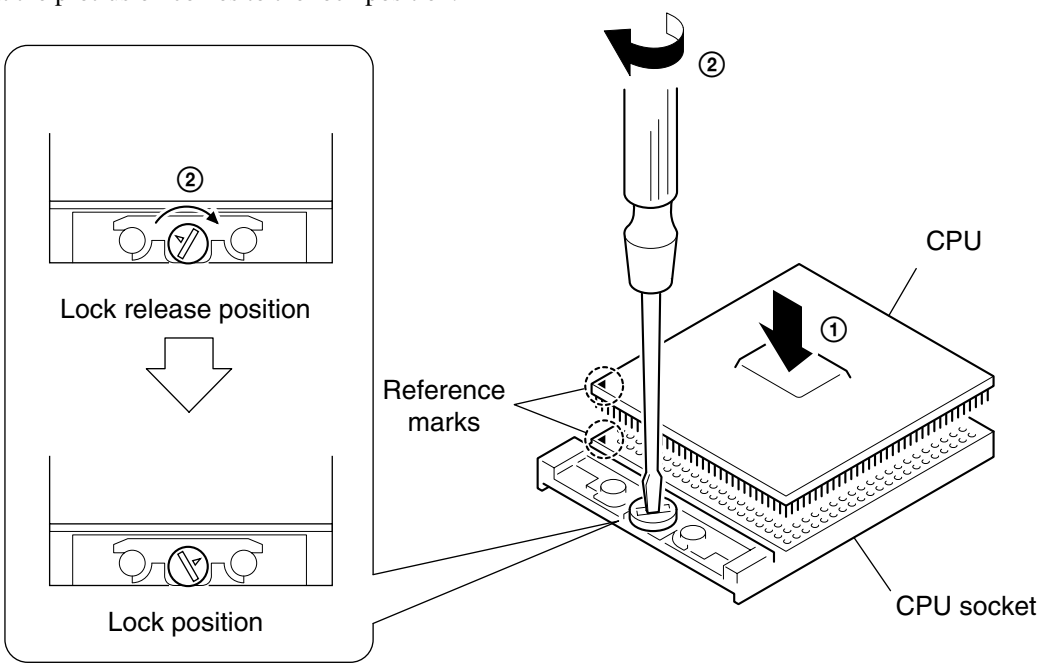
② Pull the CPU gently upward to lift it out of the CPU socket.



2. Installing the CPU

① Align the triangle reference mark of the CPU with that of the CPU socket and insert all the pins of the CPU to the corresponding holes of the CPU socket.

② Insert a flat-blade screwdriver into the notch as shown in the illustration and rotate it so that the protrusion comes to the lock position.



NOTE:

Rotate a flat-blade screwdriver to the lock position securely. If not, the operation of the CPU may become unstable.

List of PCG-GRZ Series (As of February, 2004)

Model Name	Service Manual Part No.
PCG-GRZ530	9-876-035-XX
PCG-GRZ660 PCG-GRZ630 PCG-GRZ610	9-876-068-XX
PCG-GRZ270 PCG-GRZ230	9-876-070-XX

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English
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Suffix	Ver.	Date	Contents	QM No.
-01	Ver. 1	2003.01.27	First Edition	
-02	Ver. 2	2003.01.28	**Front Page (Model Line Up), Page 3-1, Page 3-2, Page 3-6, Back Cover**	N2003_008AK
-03	Ver. 3	2004.02.27	⚠2 **Front Page, Page 3-2, Page 3-4, Back Cover**	N2004_026CK

< Remarks >